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Circular No. 7.

United States Department of Agriculture,

OFFICE OF THE SECRETARY.

POSSIBLE INFLUENCE OF IMPORTATION OF HAWAIIAN SUGAR ON BEET-SUGAR PRODUCTION IN THE UNITED STATES.

[Letter from the Secretary of Agriculture, in response to the Senate resolution of January 14, 1898.]

United States Department of Agriculture,
Office of the Secretary,
Washington, D. C., January 17, 1898.

Sir: In obedience to a resolution of the United States Senate calling for a statement of sugar importation, production, and consumption, and what effect the importation of Hawaiian sugar has, or could have upon the beet-sugar production of the United States, I have the honor to submit the inclosed statement.

Very respectfully,
James Wilson,
Secretary.

The Vice-President.

The average amount of sugar imported into the United States annually from 1893 to 1897, inclusive, was 1,830,482 tons of 2,240 pounds each, valued at $101,575,293. The importation during the fiscal year ending June 30, 1897, was 443,323 tons more than the average of the four preceding years, which was 1,752,617 tons, owing to the desire of importers to anticipate the effect of the tariff act pending in Congress during the last months of that year.

The average importation of sugar from the Hawaiian Islands from 1893 to 1897, inclusive, was 149,456 tons, valued at $9,973,924. The importation for the fiscal year of 1897 was 192,508 tons, being 43,052 tons above the average of the preceding four years. During 1897 the Hawaiian sugar was 9.1 per cent of the amount consumed in the United States. From 1893 to 1897 it was 7.1 of our consumption.

The beet sugar consumed in the United States in 1896 was 18 per cent; in 1897, it was 37* per cent of the total consumption. The disturbed condition of Cuba doubtless caused much of this marked increase but the beet sugars from countries in continental Europe are those from which we may expect the most active competition. The production of beet sugar in the United States in 1897 was 41,347 tons of 2,240 pounds each; of cane sugar, 289,009 tons; of maple sugar, 5,000 tons, and of sorghum sugar 300 tons.

The total domestic product was 335,656 tons.

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* Correction: For "37" read "45."

The total refined product of imported sugar was 1,760,607 tons, making the total annual consumption 2,096,263 tons.

From the foregoing it appears that 84 per cent of the sugar consumed in the United States was imported.

A prominent question is, Can this Hawaiian production be greatly increased in competition with the American farmer? Free entry into the United States from these islands has given great encouragement to the production of sugar and the industry has been developed very rapidly. We must take into consideration methods of cultivation in Hawaii before we can certainly conclude what the future of the industry will be in that direction. Sugar cane is grown continuously on the same land in Hawaii, and for this reason the soil is being exhausted. The planters are now compelled to buy commercial fertilizers. The three elements of plant food most necessary to vegetation are nitrogen, potassium, and phosphoric acid. Hawaiians will find saltpeter in Chile, potash at the Stassfurt mine in Germany, and phosphates in Florida. Guano on the islands of the Pacific is being exhausted and is quite expensive. When it becomes necessary to fertilize the soil in order to grow a crop, the expense becomes a considerable item and must be considered in determining what the effect of competition would be on American sugar growers.

Sugar will be grown in the United States by American farmers. The Department of Agriculture has been experimenting in two-thirds of the States of the Union during the past year, and will experiment in all the States during the coming year to ascertain where we can grow sugar-producing plants most profitably. A detailed report now being prepared for Congress will show the results of the work. The indications that come to us regarding our past season's work are that there is a wide extent of country from the Atlantic to the Pacific where sugar beets can be profitably grown as an additional money crop.

The $100,000,000 now paid for sugar is a great incentive, and numerous factories are planned and arrangements for growing beets are being made in many States. The per cent of sugar in the beets in many parts of our country is much higher than the average in Europe. Sugar beets will be grown most profitably by the American farmer in connection with dairying or meat production. They will not be grown successively on any one piece of ground, but will become a feature of rotative systems, alternating with the grasses, legumes, and the grains that recuperate the soil and store it with plant food suitable for growing the beet on any one piece of ground once in four or five or six years. Nitrogen will be replaced by the clovers and other legumes. Potash and phosphoric acid will become available in most of our soils while they are resting in grass.

The American farmer can grow the sugar beet profitably for the dairy cow, young animals, and fattening stock, if the sugar is not extracted at all; the Hawaiian has not these auxiliaries. The pulp of the sugar beet contains all the nitrogenous matter of the plant. If this is taken back to the farm and fed to stock, and through that instrumentality returned to the soil, sugar beets can be grown perpetually on the same farm, without at all reducing the fertility of the soil, because the sugar comes from the carbon dioxid of the atmosphere and takes no element of fertility from the land.

The first sugar beet factories established in the United States imported machinery from continental Europe. The ingenuity of our people has been at work and has gradually supplanted every piece of machinery imported, so that both in the field and factory American machinery is superseding the foreign and enabling the American farmer and factory owner to do the work more expeditiously and economically.

These considerations lead me to conclude that the system of agriculture pursued in Hawaii, which is certainly reducing the fertility of the soil, can not compete with a system of farm management in the United States where the fertility of the soil is not at all reduced. We consume in the United States about 2,000,000 tons of sugar. Something like a million acres devoted to this purpose would produce all the sugar we import into our country at the present time, or 10 acres grown on each one of 100,000 farms in rotation with other crops would meet home demands and do no injury to the soils.

The American farmer will use this crop to diversify the farm system. The Hawaiian sugar grower is a one-crop man, and wherever one crop is perpetually grown, be it wheat or maize, beets or cane, cotton or tobacco, the available plant food in the soil is certain to be reduced below the point of profitable production, and fertilizers are required.

With regard to the ability of the United States to produce sugar, the States north of Virginia and including that Commonwealth have demonstrated within the past year that the conditions are all favorable for profitable production. We intend, during the coming year, to ascertain where the sugar beet can be profitably grown in the States south of Virginia. Where it may be ascertained that the sugar beet will not grow profitably in the South, and where ribbon cane will not succeed, we will introduce the sorghum sugar-cane seed. The Department of Agriculture has been selecting and developing this plant during the last seven years, until it contains as high a per cent of sugar as is found in the sugar beet. The average sugar content necessary to the profitable production of the sugar beet is about 12 per cent.

The Lehi factory in Utah has been running for several years profitably with an average of sugar in the beet of 12 to 13 per cent. Our selected sugar cane gives us an average of 14 per cent, and runs as high as 20 to 22 per cent in some cases. The Department has been using the same methods of selection in developing sorghum by the polariscope that have been in vogue in France and Germany for forty years past in the selection of mother beets. Wherever we find that sugar beets will not grow profitably in the Southern States, we propose to introduce this high-heredity sorghum seed. Sorghum molasses is made extensively all over the United States. The census of 1890 shows that in 1889 the United States produced 24,235,219 gallons of sorghum molasses, and in 1897 we made 300 tons of sorghum sugar. It is popular with the people; it is made in small neighborhood mills, and the manufacture is being greatly extended.

An additional reason why the Department of Agriculture proposes to encourage the growing of first-class sorghum in the South is that the farmers of that section require a carbonaceous forage plant to feed with their cotton-seed cake. The State of Georgia, for example, produced 600,000 tons of cotton seed in 1897. If properly balanced with carbonaceous fodders, the cake of that one State would have finished the 390,000 cattle exported from this country last year. The sorghum plant is highly carbonaceous and will answer this purpose admirably. It grows vigorously in dry soils where maize and other grasses do not thrive. Whether sugar is produced from beets or cane, it is done most profitably in connection with farms having all the departments properly balanced. The Northern States have the dairy and feed yard; the Southern States may have them as well. The production of sugar can be incidental in both sections of the country to the feeding of animals. Hawaii has nothing of this kind. The cane is grown; it is hauled to the mills; the bagasse is not returned to the soil; the available plant food is reduced, and the planters must search to the ends of the earth for fertilizers. This is expensive, and they can not permanently compete with farmers who make the growing of a few acres of sugar beets or sorghum incidental to other agricultural operations on the farm.

Sugar production in Hawaii is carried on with coolie labor under contract systems. That will vanish if the islands become subject to our laws, when the laborer there will receive the same wages he now gets in California.

Hawaii then will not seriously compete with sugar producers in the States. When the people of those islands come to consider, with scientific assistance, the possibilities of coffee production that can be extended over much of the limited sugar belt, it will be found that in that industry they have a monopoly with which no State in the Union can interfere. It is a singular fact that no scientific improvement of the coffee tree with regard to the excellence of the berry and increased yield of the tree through intelligent selection has ever been made. The climate of these islands is admirably adapted to the production of many fine fruits that can not be grown in any of our States. They can grow many choice subtropical and tropical fruits that have never been scientifically developed, the improvement of which would lead to very profitable production. In these directions the farmers of the States could not compete with Hawaii.